

**WILLIAMS PIPE LINE COMPANY**  
ONE OF THE WILLIAMS COMPANIES



APACHE OFFICE PARK - SUITE 246  
2500 39th AVENUE NORTHEAST  
MINNEAPOLIS, MN 55421

OCT 06 1987

September 29, 1987

US EPA RECORDS CENTER REGION 5



483541

Ecology and Environment, Incorporated  
c/o Mr. Benjamin E. Wolff  
111 West Jackson Blvd.  
Chicago, Illinois 60604

Re: Site Inspection - Franklin Park Terminal

Dear Mr. Wolff:

As requested in our meeting September 22, 1987, attached are copies of the following information:

- NPDES Permit Number IL0045209
- Report of Flammable - Volatile - Explosive - Corrosive Materials.
- Air Pollution Episode Action Plan
- Annual Emission Report
- SPCC Plan
- Soil Boring Results from a November, 1986 Gasoline Spill.

If you have any questions, please advise.

Sincerely,

J. K. Myers  
District Manager

JKM/js  
Attachment

LEGGETTE, BRASHEARS & GRAHAM, INC.  
CONSULTING GROUND-WATER GEOLOGISTS

R. G. SLAYBACK  
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HARRY F. OLESON  
ROBERT LAMONICA  
WILLIAM K. BECKMAN  
DAN C. BUZEA  
DOUGLAS E. SIMMONS  
JOHN NASO, JR.  
W. PETER BALLEAU

September 25, 1987

Mr. David L. Young  
Special Assignment Supervisor  
Williams Pipe Line Company  
2500 39th Avenue NE, Suite 246  
Minneapolis, MN 55421

Re: Chicago Terminal Soil Sampling

Dear Mr. Young:

In May 1987 an investigation was conducted to determine the extent and degree of residual petroleum contamination in the soil at the Williams Pipe Line Company facility in Chicago, Illinois resulting from the November 6, 1986 release of unleaded gasoline.

A total of 14 soil samples were collected from various depths at 10 sample locations. The soil-sample locations and the relationship of the soil-sample locations to the November 1986 spill are illustrated on the map in Figure 1.

Methodology

The soil samples were collected by a hydrogeologist using a portable hand auger and sampling tube. Boreholes were augered to the depth of interest and the sample was collected using the sampling tube. The hydrogeologist logged the physical description of the soils and made note of any visual or olfactory evidence of hydrocarbon contamination; this information is included on Table 1. At

each soil-sampling location three sample jars were filled; one for laboratory analysis for volatile organics, one for laboratory analysis for lead, and one for field analysis using a portable organic vapor analyzer (OVA) (Table 2). After the samples were collected, the OVA probe was inserted into the borehole to measure the down-hole concentrations of organic vapors (Table 1). All sampling equipment was then thoroughly cleaned with alcohol and rinsed with distilled water before use at the next sampling location.

The portable organic vapor analyzer provides a qualitative value of volatile organic compound concentrations which can be used to assess the relative degree of contamination at different locations. The OVA is equipped with an ultraviolet lamp which has an energy of approximately 10.6 electron volts (eV). The energy of this lamp is sufficient to cause photoionization of organic compounds which have ionization potentials of less than 10.6 eV. Many of the volatile organic chemicals, including benzene, toluene, and xylene, have ionization potentials of less than 10.6 eV. The instrument is equipped with electronic circuitry which measures the electronic current created when the compounds with ionization potentials of less than 10.6 eV are broken down into positive and negative ions. Because the instrument measures the total ionizables present rather than a specific compound, the data are best used in a qualitative, dimensionless manner. Therefore, the OVA values reported on Tables 1 and 2 are dimensionless.

### Results

One set of soil samples from each location were analyzed by Admiral Water Services Co. of Mt. Prospect, Illinois. The samples were tested for the presence of benzene, toluene, xylene, hexane and leachable lead. Two samples, S-1 and S-8, were also analyzed for total lead

concentration. The laboratory report is included as Attachment 1. A letter confirming a laboratory error for sample S-7 (benzene concentration is less than 0.01 milligram per kilogram (mg/kg) rather than 21 mg/kg as originally reported) is included as Attachment 2. The analytical results are tabulated on Table 2. The data are discussed in detail below.

Two of the soil samples, S-1 and S-2, (Figure 1) were taken to determine background levels for the compounds of interest at the WPL facility. The analytical results for these two samples (Table 2) show that background levels for benzene, toluene xylene and leachable lead are below detectable limits. The background level for total lead is 13.7 mg/kg for sample S-1. This value is within the typical range of lead values in urban environments.

Samples S-3 and S-4 were taken from the area west of the disked area around Tank #654 (Figure 1). Based on topographical evidence and the presence of a creek along the western edge of the facility, these locations are presumed to be downgradient (hydraulically) from the farthest extent of the surface contamination. Concentrations of benzene, toluene, xylene and leachable lead are all below the minimum detection limit at these two sites.

A sample was obtained from the disked area adjacent to Tank #654 to determine the effects of the disking operation. As observed by LBG personnel at the time of the spill, this area received only minor amounts of surface contamination as the product backed up before draining into the separator. This sample, S-5, also contained no measurable levels of benzene, toluene, xylene or leachable lead. As such, we believe that the disking operation has been successful in removing any contaminants which may have existed in the soils in this area.

Several soil samples were obtained at various depths from the disked area adjacent to Tank #272. As observed by

LBG personnel at the time of the spill, this area received the largest volume of product and resultant surface contamination (Figure 1). The analytical results of samples from this area (samples S-6 through S-14) indicate that near-surface contamination has been effectively treated by the disking operation. Benzene appears to have been the most affected compound. In the upper 1.5 feet of the soil profile (samples S-6, S-9, S-11 and S-13) levels for benzene have been reduced to below detectable levels. Xylene and toluene concentrations have also been significantly reduced compared to levels for these compounds in the 3 to 4-foot depth range (Samples S-7, S-8, S-10, S-12 and S-14).

Contaminant levels in the soils below 3 feet below grade level (bgl) are still quite high. Benzene and toluene levels are in the 20 to 50 mg/kg range, and xylene levels are considerably higher (samples S-12 and S-14).

As requested by the Illinois EPA, all of the soil borings were left open for 24 hours following sampling to allow any ground water present in the soil to accumulate in the boreholes. All of the borings were observed to be dry after 24 hours and were subsequently backfilled.

### Conclusions

Because we do not have pre-treatment analytical data for the soil, we cannot state unequivocally that the treatment has been effective. However, when a contaminant is introduced at the surface, as in this case, the near surface sediments usually contain the highest concentrations of contaminants. Based on the post-treatment soil analyses, which show low to nonexistent concentrations of contaminants in the near-surface sediments, the disking and fertilizing of the soil in the spill area appears to have facilitated the breakdown of hydrocarbon compounds in the upper two feet

of the soil column. These efforts have not been as effective below the two-foot depth.

No ground water was observed in the portion of the soil column that was investigated; this supports the conclusions in an earlier report that there is no ground water present in the clay formation underlying this site.

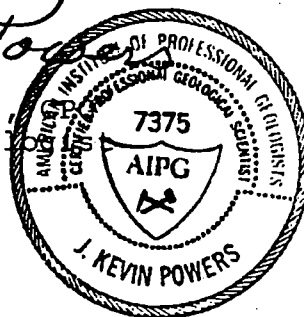
### Recommendations

Disking and fertilizing of the upper two feet of soil in the spill area has reduced the concentration of hydrocarbon compounds in the soil. Therefore, additional treatment of this portion of the soil column would be unproductive. We recommend that the upper two feet of soil be removed from the spill area and spread elsewhere on the property. The underlying soil should be fertilized as required to maintain the nitrogen and phosphorus levels at 10-50 mg/kg and 5 mg/kg respectively and the pH should be maintained between 6.5 and 7.0. Disking activities should then be resumed on the underlying soils on a bi-weekly basis and continue until frost sets in. When the ground thaws in the spring the soil should be resampled to evaluate the remedial efforts and to plan future action.

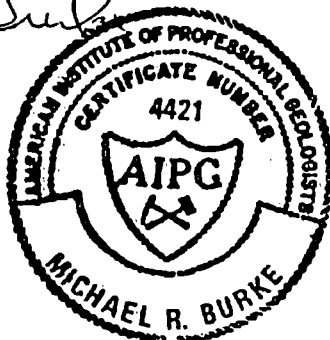
Very truly yours,

LEGGETTE, BRASHEARS & GRAHAM, INC.

*J. Kevin Powers*  
J. Kevin Powers,  
Senior Hydrogeologist



*Michael R. Burke*  
Michael R. Burke  
Vice President



JKP:mas

Disk: CHCAGO  
Doc: YOUNG

LEGGETTE, BRASHEARS & GRAHAM, INC.

TABLE 1

WILLIAMS PIPE LINE COMPANY  
CHICAGO TERMINAL  
SOIL SAMPLING DATA

Sample Number	Sample Location	Depth Interval <sup>a/</sup>	Sample Description	OVA Concentrations		
				Background	Borehole	Net
S-1	350' North of Tank #1416 (Background Sample)	2.0-3.0	Clay, Brown, Dry, No odor	-1.4	8.0	9.4
S-2	300' North of Tank #1415 (Background Sample)	2.0-4.0	Sandy Clay, Brown, Dry, No odor	-8.1	-2.4	5.7
S-3	265' West-Northwest of Tank #654 (Downgradient Sample)	3.0-4.0	Topsoil, Black, Dry, No odor	-5.0	-4.0	1.0
S-4	265' West-Southwest of Tank #654 (Downgradient Sample)	3.0-4.0	Clay, Reddish Gray, Dry, No odor	-4.0	-7.0	-3.0
S-5	200' Northwest of Tank #654 (In Disked Area)	3.0	Clay, Gray, Dry, No odor	8.0	14.0	6.0
S-6	100' South of Tank #272 (In Disked Area)	0.5-1.0	Topsoil, Black, Dry No odor	2.0	8.0	6.0
S-7	100' South of Tank #272 (In Disked Area)	3.0-4.0	Topsoil, Black, Dry, No odor	2.0	8.0	6.0
S-8	65' South of Tank #272 (In Disked Area)	2.5-3.5	Topsoil, Black, Dry, Slight odor	-5.0	100.0	105.0
S-9	80' Southwest of Tank #272 (In Disked Area)	1.0-1.5	Topsoil, Black, Dry, Slight odor	6.1	10.3	4.2
S-10	80' Southwest of Tank #272 (In Disked Area)	3.0-4.0	Topsoil, Black, Wet, No odor	1.0	2.5	1.5
S-11	120' Southwest of Tank #272 (In Disked Area)	1.0-1.5	Topsoil, Black, Dry, Strong odor	2.5	500.0	497.5
S-12	120' Southwest of Tank #272 (In Disked Area)	3.0-4.0	Topsoil, Black, Dry, Strong odor	3.0	550.0	547.0
S-13	80' West of Tank #272 (In Disked Area)	1.0-1.5	Topsoil, Black, Dry, Very strong odor	3.3	1500.0	1496.7
S-14	80' West of Tank #272 (In Disked Area)	3.0-4.0	Topsoil, Black, Dry, Very strong odor	13.0	2000+	2000+

<sup>a/</sup> Feet Below Grade Level

LEGGETTE, BRASHEARS & GRAHAM, INC.

TABLE 2

WILLIAMS PIPE LINE COMPANY  
CHICAGO TERMINAL  
SOIL-SAMPLE ANALYTICAL RESULTS

Sample Number	Sample Location	Depth Interval <sup>a/</sup>	Benzene <sup>b/</sup>	Toluene <sup>b/</sup>	Xylene <sup>b/</sup>	Leachable <sup>c/</sup> Lead	Total Lead	Net OVA Concentration
S-1	350' North of Tank #1416 (Background Sample)	2.0-3.0	*0.01	*0.01	*0.01	*0.10	13.7	-18.00
S-2	300' North of Tank #1415 (Background Sample)	2.0-4.0	*0.01	*0.01	*0.01	*0.10	NA	-23.00
S-3	265' West-Northwest of Tank #654 (Downgradient Sample)	3.0-4.0	*0.01	*0.01	*0.01	*0.10	NA	68.00
S-4	265' West-Southwest of Tank #654 (Downgradient Sample)	3.0-4.0	*0.01	*0.01	*0.01	*0.10	NA	-2.30
S-5	200' Northwest of Tank #654 (In Disked Area)	3.0	*0.01	*0.01	*0.01	*0.10	NA	190.00
S-6	100' South of Tank #272 (In Disked Area)	0.5-1.0	*0.01	*0.01	*0.01	*0.10	NA	NA
S-7	100' South of Tank #272 (In Disked Area)	3.0-4.0	*0.01	*0.01	*0.01	*0.10	NA	-12.00
S-8	65' South of Tank #272 (In Disked Area)	2.5-3.5	*0.01	*0.01	1.6	*0.10	21.1	230.00
S-9	80' Southwest of Tank #272 (In Disked Area)	1.0-1.5	*0.01	*0.01	*0.01	*0.10	NA	NA
S-10	80' Southwest of Tank #272 (In Disked Area)	3.0-4.0	*0.01	*0.01	0.67	*0.10	NA	-10.90
S-11	120' Southwest of Tank #272 (In Disked Area)	1.0-1.5	*0.01	1.55	6.32	*0.10	NA	2000.00**
S-12	120' Southwest of Tank #272 (In Disked Area)	3.0-4.0	56.6	48.8	403.0	*0.10	NA	2000.00**
S-13	80' West of Tank #272 (In Disked Area)	1.0-1.5	*0.01	2.69	49.1	*0.10	NA	2000.00**
S-14	80' West of Tank #272 (In Disked Area)	3.0-4.0	36.3	35.5	410.0	*0.10	NA	2000.00**

\* Less Than

\*\* OVA Detector Becomes Saturated at 2000 Units

<sup>a/</sup> Feet below grade level<sup>b/</sup> Milligrams per kilogram<sup>c/</sup> EP Toxicity Method - 40 CRF, Part 261, Appendix II.

**A T T A C H M E N T I**



## ADMIRAL WATER SERVICES CO.

800 West Central Road Mount Prospect, Illinois 60056 Phone: (312) 253-3933

*Consultants on Pollution Control, Water Management and Treatment of Water and Wastewater*

June 17, 1987

JUN 19 1987

Mr. Trace McDermott  
Special Assignment Supervisor  
Williams Pipe Line  
2500 39th Ave., S.E.  
Suite 246  
Minneapolis, Minn. 55421

Re: Analyses of Soil Sample

Dear Mr. McDermott:

Attached are Laboratory Reports No. 9-431 and 9-431A covering the samples we recently picked up at your facility in Franklin Park, Illinois. Also included is a copy of the Chain of Custody Record.

If there are any questions, please call.

Sincerely,

ADMIRAL WATER SERVICES CO.

Richard G. Dalbke, P.E.  
Director

RGd:eds

Attach.

CC: Mr. Kevin J. Miller, Leggette, Brashears & Graham, Inc.



# ADMIRAL WATER SERVICES CO.

800 West Central Road Mount Prospect, Illinois 60056 Phone: (312) 253-3933

Consultants on Pollution Control, Water Management and Treatment of Water and Wastewater

June 12, 1987

## Waste Analysis

Lab No: 9-431

WILLIAMS PIPE LINE  
Franklin Park, Illinois

### IDENTIFICATION OF MATERIAL:

Fourteen (14) Soil Samples received 5-14-87.

### I. TOTAL LEAD & EPT:

#### Procedure:

Weighed portions of the samples were digested in accordance with USEPA SW-846 Method 3050, and analyzed for Total Lead in accordance with Method 7380.

The samples were leached and analyzed in accordance with the procedure specified in 40 CFR, Part 261, Appendix II.

### RESULTS:

<u>SAMPLE ID:</u>	<u>EPT LEACHABLE LEAD</u> <u>(mg/L)</u>	<u>TOTAL LEAD</u> <u>(ppm)</u>
Sample #1 2'-3' below grade level (2)	*0.1	13.7
Sample #2 2'-4' below grade level (2)	*0.1	---
Sample #3 3'-4' below grade level (2)	*0.1	---
Sample #4 3'-4' below grade level (2)	*0.1	---
Sample #5 3' below grade level (2)	*0.1	---
Sample #6 6"-1' below grade level (2)	*0.1	---
Sample #7 3'-4' below grade level (2)	*0.1	---
Sample #8 2.5-3.5 below grade level (2)	*0.1	21.1
Sample #9 1'-1.5' below grade level (2)	*0.1	---
Sample #10 3'-4' below grade level (2)	*0.1	---
Sample #11 1'-1.5' below grade level (2)	*0.1	---
Sample #12 3'-4' below grade level (2)	*0.1	---
Sample #13 1'-1.5' below grade level (2)	*0.1	---
Sample #14 3'-4' below grade level (2)	*0.1	---

Chicago Office and Laboratories: 3158 South Kolin Avenue / Chicago, Illinois 60623

\*Denotes "LESS THAN" (Below detectable limit of procedure used).

II. ORGANICS:

Procedure:

The Benzene, Toluene and Xylene were determined in accordance with USEPA SW-846 Method 8020.

RESULTS:

<u>Sample ID:</u>	<u>Concentration in mg/Kg</u>		
	<u>BENZENE</u>	<u>TOLUENE</u>	<u>XYLENE</u>
Sample #1 2'-3' below grade level (2)	*0.01	*0.01	*0.01
Sample #2 2'-4' below grade level (2)	*0.01	*0.01	*0.01
Sample #3 3'-4' below grade level (2)	*0.01	*0.01	*0.01
Sample #4 3'-4' below grade level (2)	*0.01	*0.01	*0.01
Sample #5 3' below grade level (2)	*0.01	*0.01	*0.01
Sample #6 6"-1' below grade level (2)	*0.01	*0.01	*0.01
Sample #7 3'-4' below grade level (2)	<u>1/</u> 21	*0.01	*0.01
Sample #8 2.5-3.5 below grade level (2)	*0.01	*0.01	1.6
Sample #9 1'-1.5' below grade level (2)	*0.01	*0.01	*0.01
Sample #10 3'-4' below grade level (2)	*0.01	*0.01	0.67
Sample #11 1'-1.5' below grade level (2)	*0.01	1.55	6.32
Sample #12 3'-4' below grade level (2)	56.6	48.8	403.7
Sample #13 1'-1.5' below grade level (2)	*0.01	2.69	49.1
Sample #14 3'-4' below grade level (2)	36.3	35.5	410

\*Denotes "LESS THAN" (Below detectable limit of procedure used).

1/ LABORATORY ERROR - SHOULD BE  $< 0.01 \text{ mg/kg}$   
(SEE ATTACHMENT 2)

By   
Frank Altmayer

FA:clm  
2c



# ADMIRAL WATER SERVICES CO.

800 West Central Road Mount Prospect, Illinois 60056 Phone: (312) 253-3933

Consultants on Pollution Control, Water Management and Treatment of Water and Wastewater

June 16, 1987

Waste Analysis

Lab No: 9-431A

WILLIAMS PIPE LINE  
Franklin Park, Illinois

## IDENTIFICATION OF MATERIAL:

Fourteen (14) Soil Samples received 5-14-87

## PROCEDURE:

Weighed portions of the samples were extracted with chloroform for 8 hours using soxhlet. The chloroform was concentrated to a final volume of 10 ml and analyzed on a Hewlett Packard 5890A Gas Chromatograph.

## RESULTS:

Hexane  
(mg/kg)

### SAMPLE ID:

Sample #1 2'-3' below grade level	*100
Sample #2 2'-4' below grade level	*100
Sample #3 3'-4' below grade level	*100
Sample #4 3'-4' below grade level	*100
Sample #5 3' below grade level	*100
Sample #6 6"-1' below grade level	*100
Sample #7 3'-4' below grade level	*100
Sample #8 2.5'-3.5' below grade level	*100
Sample #9 1'-1.5' below grade level	*100
Sample #10 3'-4' below grade level	*100
Sample #11 1'-1.5' below grade level	*100
Sample #12 3'-4' below grade level	*100
Sample #13 1'-1.5' below grade level	*100
Sample #14 3'-4' below grade level	*100

\* Denotes "LESS THAN" (Below detectable limit of procedure used).

BY

*Philip A. Twomey*  
Philip A. Twomey, P.E.  
Director of Services

ADMIRAL WATER SERVICES CO.  
CHAIN OF CUSTODY RECORD

Lab# 9-431

PROJ. NO.		PROJECT NAME William Rpe Line WPL Chicago				NO. OF CON- TAINERS	Parameters BTX TIME LEAD										REMARKS
SAMPLERS: (Signature) Kevin J. Miller																	
STA. NO.	DATE	TIME	CON.	GRAB	STATION LOCATION												
1	5/13/87					2										all samples are soils	
2	5/13					2											
3	"					2											
4	"					2											
5	"					2											
6	"					2											
7	"					2											
8	"					2											
9	"					2											
10	"					2											
11	"					2											
12	"					2											
13	"					2											
14	"					2											
Relinquished by: (Signature) KJ Miller		Date / Time 5/13/87 1710		Received by: (Signature) A Glowacki		Relinquished by: (Signature) James T McTearney		Date / Time 5/14 9:30		Received by: (Signature)							
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)							
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature) Laura Suranne		Date / Time 5/14 10:30		Remarks									

Form to be completed in the field and signed by samplers.

Original to be shipped to laboratory with samples.

The bottom portion to be signed and dated by samplers, and shipping company, if applicable.

**A T T A C H M E N T I I**



# ADMIRAL WATER SERVICES CO.

500 West Central Road Mount Prospect, Illinois 60056 Phone 312/253-3933

*Consultants on Pollution Control, Water Management and Treatment of Water and Wastewater*

June 26, 1987

Mr. Kevin Powers  
Leggette, Brashears & Graham, Inc.  
Northpark Corporate Center  
1210 West County Road East  
St. Paul, Minnesota 55112

Re: Laboratory Report No. 9-431  
Williams Pipe Line Company, Franklin Park, IL

Dear Mr. Powers:

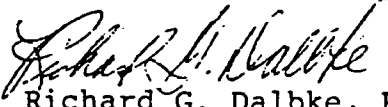
This will confirm our telephone discussion.

The benzene content of Soil Sample #7 was rechecked and found to be less than 0.01 mg/Kg. Kindly correct the original report forwarded with our letter of June 17, 1987.

Please let us know if there are any additional questions.

Sincerely,

ADMIRAL WATER SERVICES CO.

  
Richard G. Dalbke, P.E.  
Director

RGD:eds